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Sosa, R. A., R.W. Henderson, and R. Powell. 1995. *Hyspirhynchus, H. ferox.*

Hypsirhynchus Günther

Hypsirhynchus Günther, 1858:49. Type-species, *Hypsirhynchus ferox* Günther, 1858, by monotypy.

• **Content.** A single species, *Hypsirhynchus ferox*, is recognized.

• **Definition.** *Hypsirhynchus ferox* is a moderately large (maximum SVL of males to 727 mm, of females to 773 mm) xenodontine with 19 (exceptionally 17 or 21) scale rows at midbody; 156-177 ventrals and 73-93 paired subcaudals in males, 162-182 ventrals and 71-89 paired subcaudals in females; smooth dorsal scales with a single, often very prominent apical pit; divided anal (= cloacal); and a somewhat elongate head with normal unspecialized colubrid type head scalation: loreals 1/1 or 0/0 (occasionally 1/0) modally by population, 1/1 preoculars, 2/2 (rarely 1/1 or 1/2) postoculars, usually 1 + 2 temporals, usually 8/8 supralabials, and usually 10/10 infralabials.

The dorsal pattern is variable, ranging from uniformly pinkish buff to tan to heavily patterned with a median series of arrowhead markings, more or less alternating with some sort of lateral bars or interconnecting reticula. The throat varies from patternless to some shade of brown with well-defined white to cream spots. The venter is some shade of tan and is usually heavily stippled with dark brown dots. A bold white temporal stripe runs from the eye across the posterior supralabials onto the anterior quarter of the body where it becomes increasingly obscure. Lores and upper head scales are variously marbled with pale on a dark brown ground color. The most persistent head markings consist of a median dark stripe running from the snout onto the nape and one or two alternating light-and-dark longitudinal lines or stripes in the supraocular region. The pupil is vertically elliptical.

The hemipenis (based on USNM 167298) is long, extending about 13 subcaudals when extruded, strongly bifurcate apically; the non-sulcate surface is equipped with scattered long spines, those which are proximal shorter than those which are



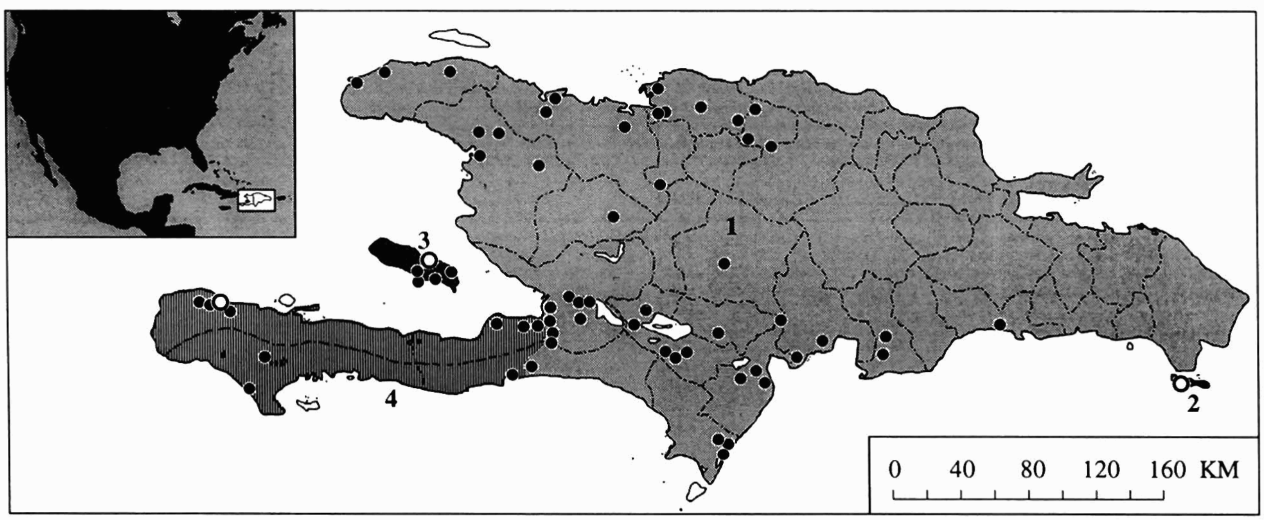
Figure. An adult male *Hypsirhynchus ferox ferox* (Bobby Witcher Memorial Collection, BWMC 06027) from 4.3 km NE Oviedo, Provincia de Pedernales, República Dominicana. Note the upturned snout.

distal, and arranged in four longitudinal series, the lateral series delimiting the non-sulcate from the sulcate surface; The non-sulcate surface is covered with many very small spines and spinules which extend onto the sulcate surface to the sulci. The sulcate surface (between sulci) is very weakly rugose. The sulcus spermaticus is divided very near the base of the organ, the two grooves extending to just below the apices of the two distal forks; apices are calyculate, the margins of the calyces studded with prominent papillae. The base of the hemipenis is heavily covered with large stout spines and without a basal lobe (Schwartz, 1971).

• **Diagnosis.** *Hyspirhynchus* can be distinguished from all other Hispaniolan colubrids by the following combination of characters: posterior dorsal scale rows 15 or more (13 or fewer in *Uromacer*) and slightly upturned acuminate snout (all seven other colubrid species have a normal profile with a rounded snout).

• **Descriptions, Illustrations, Distribution, Fossil Record.** See species account.

• **Pertinent Literature.** Dunn (1932), based on hemipenis and maxillary dentition, questioned the validity of *Hypsirhynchus* and suggested that these snakes be considered congeneric with the widespread Antillean genus *Dromicus* (= some current



Map. Range of *Hypsirhynchus ferox* (modified from Schwartz and Henderson, 1991). Large circles mark type-localities, dots mark other records. The type-locality of the nominate subspecies is too imprecise to plot.

Alsophis, *Antillophis*, and *Arrhyton*). Mertens (1939) pointed out that although these forms were closely related, *Hypsirhynchus* was distinct on the basis of having a vertically eliptical pupil. Maglio (1970) discussed intergeneric relationships (especially in regard to pupillary shape being a suspect character at the generic level). Hedges (1996) discussed origins of the genus.

• **Etymology.** The generic name *Hypsirhynchus* is derived from the Greek *hypsi* (on high) and *rhynchus* (snout), in apparent reference to the upturned snout.

Hypsirhynchus ferox Günther

Hypsirhynchus ferox Günther, 1858:49. Type-locality, "Barbadoes," restricted by Boulenger (1894:118, "I find that all the specimens marked 'Barbados, Cuming's Coll.' belong to species found in S. Domingo") to Santo Domingo, and further restricted by Schwartz (1971) to "the vicinity of Port-au-Prince, Département de l'Ouest, Haïti," but corrected to "República Dominicana" by Wetherbee (1987). Holotype, British Museum, Natural History (BMNH) 1946.1.4.96, adult female (total length 29.75 inches, tail 5.75 inches), from Mr. Cuming's Collection (date of collection unknown)(not examined by authors).

• **Content.** Four subspecies are recognized: *ferox*, *exedrus*, *paracrousis*, and *scalaris* (but see Remarks).

• **Definition and Diagnosis.** See generic account.

• **Descriptions.** In addition to the original description by Günther (1858), descriptions are in Cope (1862, of "*H. scalaris*"), Meerwarth (1901), Cochran (1941), Schwartz (1971), and Schwartz and Henderson (1991).

• **Illustrations.** Line drawings are in Boulenger (1894) and Cochran (1941), black and white photographs in Henderson (1984) and Henderson and Schwartz (1984), and a color plate in Powell and Henderson (1996). Drawings of dorsal patterns of *H. ferox ferox*, *H. f. exedrus*, and *H. f. scalaris* are in Schwartz (1971). Maglio (1970) provided drawings of osteological features.

• **Distribution.** This species is known from north of and including the Plaine de Cul de Sac–Valle de Neiba; southern Haiti north and south of the Massif de la Selle; the Península de Barahona; Isla Saona; Île de la Gonâve; the Tiburon Peninsula in southwestern Haiti east to Diquini in the north and Salamon near Jacmel in the south. The species apparently is absent from much of the northeastern and eastern República Dominicana (but see Remarks). Altitudinal distribution is from below sea level to nearly 1700 m. The range has been illustrated in Schwartz (1971) and Schwartz and Henderson (1991).

• **Fossil Record.** None.

• **Pertinent Literature.** Maglio (1970) examined osteology and morphology, zoogeography, and taxonomy. Schwartz (1971) provided a complete systematic account of the species. Schwartz (1980) characterized *H. ferox* as an islandwide form. Henderson (1984a) described the diet, and Henderson (1984b), Henderson et al. (1988), and Henderson and Crother (1989) discussed the diet in broader context. Schwartz and Henderson (1991) summarized natural history. SEA/DVS (1990) provided an index to habitats in the Dominican Republic. Rodríguez-Robles and Greene (1996) included this species in their study of ecological relationships of Greater Antillean macrostomatan snakes.

The species is included in additional checklists and guides by Garman (1887), Fischer (1888), Schmidt (1921), Amaral (1929 [1930]), Barbour and Loveridge (1929), Barbour (1930, 1935, 1937), Cochran (1934), Schwartz and Thomas (1975), Henderson et al. (1984), Obst et al. (1988), Schwartz and Henderson (1985, 1988), and Powell et al. (1996).

• **Nomenclatural History.** Cope (1871) wrote: "This [Hispaniola] is no doubt the true habitat of this snake" (apparently in reference to the original type-locality of *H. ferox*, which was listed as "Barbadoes." Barbour (1914) stated that: "This species [*Hypsirhynchus ferox*] was originally described as coming from Barbados, and became established in the literature as a Barbadian anomaly. Thus Wallace [1876] mentions it in the Geographical distribution of animals (2, p. 72). Boulenger, however, has shown that the type was purchased for the British Museum from Hugh Cuming, and that all his collection contains only species characteristic of Haiti or San Domingo. The genus is, then, a monotypic one, confined to the island. *Hypsirhynchus scalaris* Cope, the type of which is No. 1,517, M.C.Z. was described when *H. ferox* was supposed to come from Barbados; and the distance of that island from Hayti may have suggested the supposed distinctness of the species."

Cope (1879), in discussing specimens collected by Dr. Brown from Port-au-Prince, said: "These specimens [*H. ferox*] agree exactly with Dr. Günther's description, and differ from the *H. scalaris* Cope, in the presence of a loreal plate and the triangular form of the dorsal spots. Although I have united these supposed species, I now incline them distinct."

• **Remarks.** Schwartz (1971) indicated that, although *H. f. ferox* and *H. f. scalaris* appear not to intergrade at sites where they approach one another closely, specimens from the lower Península de Barahona may be intergrades between these two subspecies.

Schwartz (1971) noted that a specimen was observed from Juanillo, Provincia de Altagracia, in the easternmost part of Hispaniola. Although the snake was not saved, the observation indicated that this species may occur far to the east of all other recorded main island specimens.

Powell (1993) suggested that *H. f. exedrus* and *H. f. paracrousis* may represent full species.

Frank and Ramus (1995) proposed the common name "Hispaniola [*sic*] cat-eyed snake" for this species.

• **Etymology.** The name *ferox* probably is derived from the Latin *fer* (fierce), possibly an allusion to the appearance of this mild-mannered snake. The name *exedrus* is from the Greek *exedros* (away from home), in reference to the insular range (Isla Saona). The name *paracrousis* is from the Greek *para* (besides) and from the Greek *krossos* (fringe), or "striking a false note," in allusion to the differences in the Gonâve subspecies and nominate *ferox* (Schwartz, 1971). The name *scalaris* (ladder) is from the Latin, presumably in reference to elements of the dorsal pattern.

1. *Hypsirhynchus ferox ferox* Günther

Hypsirhynchus ferox Günther, 1858:49. See species synonymy.
Hypsirhynchus ferox ferox: Schwartz, 1971:74. First use of trinomial.

• **Diagnosis.** This subspecies is characterized by its large size (male SVL to 727 mm, that of females to 710 mm), a high number of ventrals (162-177) in males and a moderate number of ventrals (166-177) in females, high number of ventrals + subcaudals in males (244-267) and low number in females (241-260), high number of ventrals minus subcaudals in males (77-

98) and moderate number in females (80-107). Loreal scales are almost always present bilaterally. The dorsal pattern on this subspecies consists of dark arrowhead markings, throat modally dark brown with clear white to cream spots.

2. *Hypsirhynchus ferox exedrus* Schwartz

Hypsirhynchus ferox exedrus Schwartz, 1971:86. Type-locality, "Environs of Mano Juan, Isla Saona, República Dominicana." Holotype, National Museum of Natural History (USNM) 167298 (original number ASFS V16193), subadult (?) male, collected by native collectors on 29 December 1968 (not examined by authors).

• **Diagnosis.** This subspecies is characterized by its small size (males SVL to 540 mm, a single female with SVL = 586 mm), low number of ventrals (159-163 in males, 168 in the lone female), a low number of ventrals + subcaudals (239-244 in males, 243 in the female), and a moderate number of ventrals minus subcaudals (79-80 in males, 93 in the female). Loreal scales modally absent. The dorsum is rich pinkish tan with a vague pattern and with a fragmented and obscure head pattern. The throat is dark brown with isolated cream spots. Temporal and anterior white longitudinal lines are present and prominent.

3. H*ypsirhynchus ferox paracrousis* Schwartz

Hypsirhynchus ferox paracrousis Schwartz, 1971:82. Type-locality, "Etroits, Ile de la Gonâve, Haïti." Holotype, Carnegie Museum of Natural History (CM) 52284 (original number ASFS X2433), subadult female, collected by Elie Cyphale on 17 July 1962 (not examined by authors).

• **Diagnosis.** This subspecies is characterized by its large size (male SVL to 647 mm, that of females to 773 mm), a moderate number of ventrals in males (169-170), high in females (175-182), a high number of ventrals + subcaudals in both sexes (251-258 in males, 248-262 in females), a high number of ventals minus subcaudals in males (82-89), very high in females (96-109). Loreal scales modally present bilaterally, but often tiny or even unilaterally absent. The dorsal pattern is pale pinkish buff to tan, modally without a head or body pattern and modally with a dark throat, but throat pigmentation in adults never so strongly or solidly brown as in main island subspecies.

4. *Hypsirhynchus ferox scalaris* Cope

Hypsirhynchus scalaris Cope, 1862:72. Type-locality, "Hayti (near Jérémie) [Département du Sud]." Holotype, Museum of Comparative Zoology (MCZ) 3611 (original number 1517), adult male (SVL 49.6 cm, tail 5.7 cm [probably broken]), donated by Dr. D.F. Weinland (date of collection unknown)(not examined by authors).

Hypsirhynchus ferox scalaris: Schwartz, 1971:78. First use of trinomial.

• **Diagnosis.** This subspecies is characterized by small size (male SVL to 592 mm, that of females to 582 mm), a low number of ventrals (156-169 in males, 162-169 in females), a low number of ventrals + subcaudals (225-254 in males, 242-254 in females), and a low number of ventrals minus subcaudals (66-83 in males, 77-89 in females). Loreal scales always absent. The dorsal pattern consists of dark arrowheads connected by short dark diagonal markings. The throat is always dark brown with white to cream spots, regardless of the expression or intensity of the dorsal pattern.

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